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A study on self-reported knowledge and attitude about doping in sports among elite track and field athletes in Sri Lanka

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Abstract
Doping is known as the use of illegal substances or methods by athletes to enhance performance during competitions or out of competitions. This study aimed to assess the knowledge level and attitudes of Sri Lankan elite athletes towards doping, and assess athletes' knowledge and attitudes on doping concerning age, education level and gender. Fifty-four male and female track and field athletes were clusters randomly selected and two questionnaires were distributed among athletes during the 95th National Athletics Championship 2017 in Sri Lanka.
One Way ANOVA used to compare mean knowledge and attitude among athletes of different age groups, training age and education levels. Independent sample T-test was used to compare mean knowledge and attitude scores of male and female athletes. The mean knowledge score of the participants was 49% whereas the mean attitude score was 44. Mean knowledge and attitude scores of athletes did not differ concerning age, educational level and gender (P>0.05).
It can be concluded that the participants' knowledge of doping is not satisfactory. However, the participants of this study had a less lenient attitude towards doping.

Keywords: doping, knowledge, attitude

Introduction
Use of Performance-Enhancing Substances (PES) is been discussing in the field of the sport since the Ancient Olympic Games. In the present the World Anti-Doping Agency (WADA) the governing body to control PES use and practices in competitive sports annually update their Code and related documents that outline the official international anti-doping standards (Morente-Sánchez and Zabala, 2013) [5].
Sri Lanka which has a small landmark in the field of sports worldwide also affects PES usage and violating WADA rules. Sri Lanka Anti-Doping Agency (SLADA) established in 2013 is the national authorized institute to act against doping in sports in Sri Lanka. It has the primary authority and responsibility to adopt and implement anti-doping rules, direct the collection of Samples, the management of test results, and the conduct of hearings at the national level. According to SLADA test reports with the inception of SLADA since 2013 to end of 2017 total of 665 have tested and 19 (2.9%) have been reported positive. Thus, the last two years out of 233 tests 10 (4.3%) have been reported positive. These signs are a bad image of the island's sport. The period between 2013 to 2017 three track and field athletes in Sri Lanka out of 19 (3/19) were positive for doping. However, the first doping positive result on Sri Lankan track and field athletes reported in 1999. Since 1999 to including 2012 four-track field athletes have been reported positive. Therefore, Sri Lanka has to have a study to understand the knowledge and the attitude of the elite athletes in Sri Lanka.
This study focuses on the elite track and field athletes in Sri Lanka. Fifty-four male and female track and field athletes were randomly selected and two questionnaires measuring anti-doping knowledge and attitude towards doping were distributed. Apart from that to gather the demographic information about the participants, five questions were asked including age, gender, training age, the highest achievement at the 95th National Athletics Championships 2017 and the highest education level. An adopted questioner from WADA quiz consisting of 21 questions used to measure the samples' knowledge of doping and anti-doping rules. Standardized questioner Performance enhancement attitude scale (PEAS) used to measure the samples' attitude towards doping (Petróczi and Aidman, 2009) [9].
The study aimed to assess the knowledge level and attitudes of Sri Lankan elite athletes towards doping with respect to age, training age, education level and gender.

Methodology
This research was performed under quantitative design to analyze collected sample data. Participant consent was received prior to participate the study. Results of the study were focused to assess the knowledge level and the attitude level of athletes on doping, anti-doping rules and attitude towards doping among elite athletes in Sri Lanka who participated 95th National Athletics Championships 2017, by considering age, training age, gender and highest education level as a mediate factor.
The data gathered using a modified questionnaire from WADA Quiz to measure knowledge and it was prepared according to dichromatic format. Standard questionnaire "Performance enhancement attitude scale" developed in 2000 to measure attitude by Petróczi, Andrea (Petro´ czi, 2002). Finally gathered data analyzed by using Statistical application SPSS (statistical package for social sciences) 22.0 version and Microsoft Excel spreadsheet. Cluster random sampling technique method used. By giving questionnaires to the sample population (54) among

population 539 to identify whether there are a relationship and differences between variables of the elite athletes in Sri Lanka who participated at the 95th National Athletics Championships in 2017.

Results & Discussion

In this part expected to describe how demographic variables distributed through this research sample population. Under this study, the researcher identified five demographic variables such as gender, age, training age, highest achievement at the 95th National Athletics Championships 2017 and highest education level

The majority of the sample 44% of the total represents from the age group 26-30 consist of 24 athletes. Second highest represent age group 21-25, 39% of the total sample included 21 athletes. Next age group 31-35 has a frequency of 5 and 9% of the total. Age 35 of above has 3 athletes and represents 6% of the total. The lowest frequency represents age 20 or below age group has only one sample and shows 2% of the total. Both female and male have represented in the sample equally 27 each. When considering the highest achievement of the 95th National Championships 32% (N 17) of the sample is not medal winners but participated in respective event final round. The sample distribution of medal-winning performance from highest to lowest as follows: Gold medal winners 12 (22%), silver medal winners 7 (13%), bronze medal winners 6 (11%). Frequency of 4 (7%) has participated semifinal round.8 (15%) have of the sample not eligible to participate next round. When considering the training age 21% (N 11) of the sample have taken up athletics within the last 05 years or less. Majority of athletes of the sample training age category is 6-10 years, N 18 and representing 33%. Second highest training age category is 11-15 years N 13 of the sample representing 24%. Considerable numbers of athletes are training athletics for 16 years or more noted N 12 as a whole 22%. The sample does not represent any athlete who left school education below than grade 08. N 10 (18%) the sample had school education up to G.C.E. Ordinary level. Majority of N 34 (63%) of the sample have had school education up G.C.E. Advanced level. The lowest frequency N 2 (4%) have education level to diploma level. N 3 (6%) of the sample have education level to higher national diploma level. N 5 of the total sample of 54 representing (9%) are in degree or professional qualified level in desired areas.

The internal consistency of the PEAS is 0.707 Cronbach's alpha value which is accepted (Petróczi and Aidman, 2009) [9].

One Way ANOVA test results were not significantly different ($P > 0.05$) an athlete's age, athlete's training age and education level in either doping knowledge or doping attitude. Independent Sample T-test was utilised to determine any significant difference in knowledge and attitude with the athletes' gender and attitude. Similarly, the findings revealed no significantly different ($P > 0.05$) in knowledge and attitude.

As a whole total mean of knowledge of doping of the sample is 49.89%. Generally, knowledge of doping is not at least 50%. The theoretical midpoint of PEAS scale is 59.5. However, the results of the sample showed 44, which is below the theoretical midpoint. That signifies the sample has a less lenient attitude towards anti-doping.

Conclusions

As a conclusion researcher mentioning the study results showed very much similar result in the prior studies done in various countries. Assuming the sample is small, any nd significant differences cannot be identified in the results. Generally, the elite athletes in Sri Lanka do not possess enough knowledge of doping and anti-doping also have a negative attitude of doping. It can be concluded that the participants' knowledge of doping 49% is not satisfactory (mean knowledge score of participants was below 50%). Further, the participants of this study had a less favourable attitude (44) towards doping (mean attitude score of participants was below the theoretical mid-point of 59.5). It can also be concluded that athletes' knowledge and attitudes towards doping were not affected by age, education level or gender.

Referring to previous research articles, the following findings are emphasized. According to Selina Chebet research article on "Evaluation of knowledge, attitude and practices of doping among elite middle and long-distance runners in Kenya" Kenyan elite runners have 46.6% mean score of doping knowledge. Findings established that they had moderate knowledge of doping with a mean score of 46.4% (Selina Chebet, 2014) [12]. Another study done in Kenya concluded as "Kenya teachers colleges athlete's had awareness of doping and PES use but it was not sufficient because some athletes were not aware of the existence of the WADA including what the code outlines. Furthermore, athletes‟ responses showed that they were not fully aware of the effects of the drugs/substances" (Siswa, 2014) [13]. WADA research project stated that "Knowledge of Polish athletes concerning doping and anti-doping policy is unsatisfactory and its level is related to some socio-demographical variables, like gender, age, branch of sports discipline and length of sports career" (WADA, 2017) [16]. As so the sample of this research showed that the elite athletes of Sri Lanka have 49% means a score of doping knowledge. The sample of the research consists of 25 any colour medalists at the 95th National Athletics Championships. 20 of 25 are showing below 50 mean scores of doping knowledge. Among them, 11 participants are below 40 marks. Also, the mean knowledge score of the knowledge does not vary much even the age groups, training ages or the gender but as a whole sample states an unsatisfactory level of mean knowledge score.

The prior studies on doping attitude showed that athletes tend to have a negative attitude towards in most cases. A study published in 2013 concluded as the athletes are like to legitimately banned substances to improve performance despite it is ruining the core value of sport. Athletes are win or reward oriented therefore they want to obtain the top position regardless of the consequences of the doping. It has been emphasized that athletes who use banned substances mainly do so to improve their performance, even though most athletes acknowledge that doping is dishonest, unhealthy and risky because of the impact of sanctions. The ''false consensus effect'' seems to play a key role in legitimizing the use of banned substances (Morente-Sánchez and Zabala, 2013) [5]. Petroczi's study in 2007 and Siswa in 2014 [13] mentioned the factor that athletes win orientation led them to dope. The only exception was win orientation, which showed a significant relationship with doping attitude (Petróczi, 2007) [9]. Factors that may lead athletes to use PES to improve performance such as athletes' win orientation and competitiveness should be investigated

because such factors could be the ones that eventually influence athletes‟ perception and attitude to doping (Siswa, 2014) [13]. A study in 1984 by Goldman et el elaborates 52% of sample study athletes would dope even though they may die in five years after achieving the highest sporting achievement in the world. The result of this research on attitude towards doping neither significantly differed in age groups, training age or the highest achievement nor the gender. Relationship between the knowledge and the doping attitude too do not significant. However, the mean attitude score is 44 lower than the theoretical midpoint of 59.5. A research study has done in Uganda also conclude similar results about the PEAS score and gender difference of answers. The overall mean PEAS score for all study participants was 39.8 ± 14.8. The PEAS score of male athletes did not differ significantly from female athletes in the current study (Muwonge, Zavuga and Kabenge, 2015). Furthermore, the study can be concluded as although the findings are not significant the overall mean knowledge is below 50% and the PEAS score is less favourable to dope.

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